

Elko Television District

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Federal Communication Commission
FCC 03-198

Gentlemen:

The Elko Television District would like to make the following comments on MB Docket No. 03-185 Amendment of parts 73 and 74 of the Commission's Rules to Establish Rules for Digital Low Power Television, Television Translator and Television Booster Stations and to Amend Rules for Digital Class A Television Stations.

Comments of: Elko Television District by its Chairman Charles E. D'Asto.

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I Existing Analog Translators Grand fathered to Digital Operations.

Existing Heterodyne translators (with no adjacent channels) licensees and CP Holders for analog stations should be grand fathered to digital operations, with a letter to the commission, signed and certified by a qualified person, that the station has met the following criteria for digital operations:

1. Providing the output power of the translator equipment will not exceed 25 watts average digital power. The ERP does not exceed 2 kw.
2. The translator is operated at 6dB (25%) below its rated NTSC power and meets the mask for grand fathered translators (see exhibit similar to Riverton Freemont TV Club Inc.
3. The power meter has been calibrated.
4. The translator has a 3 or 4 pole filter on the output.
5. If the average digital power is above 10 watts, an isolator should be installed between the translator and the output filter.
6. The AGC will hold the output power to less than a plus or minus 1 dB change for an input increase of 20 db or a 10 dB decrease when the translator has been optimized for digital transmission.
7. The translator station ID would be made by the primary station or by FSK in Morse code of the up converter oscillator.
8. The translator should meet the grand fathered mask. The grand fathered mask is needed due to the IF amplifier, high-powered amplifier and the high level converters. With this mask, there should not be any interference to anyone as there is no adjacent channel. Most of the current translators under license or constructions permits could meet these standards and masks without any new equipment.

2. New Translators for DTV, Masks and D/U Ratios.

Applications for new DTV channels should meet the following:

We concur with the emission masks and D/U interference ratios proposed in the paper by Sgrignoli. Should a new station not have any adjacent channel assignment, the simple mask could be used with the stipulation on the license that when an adjacent channel is assigned into coverage contour, the operator would have to go to the stringent mask.

3. Modifications and Type acceptance.

Type certifications should be made on the final amplifier and mask filter by the translator manufacturers and the amplifier and masks control most of the out band emissions that could cause interference. At the present time only one company makes a regenerator. There are several manufacturers that build 8VSB processors for the cable TV industry. These processors have very stringent specifications.

Many of the cable TV manufacturers of processors will not want to go to the time and expense to get these processors type certified for the small TV translator market. When you consider there less than 5,000 translators and the cable industry may use 30 to 50 processors in each head end system, with 50 processors used it would take 100 cable systems to equal all of the 5,000 TV translators. The FCC should not limit the use of these units or any future technology developed for the cable industry that would benefit the TV translators.

Should the operator want to convert an analog translator to digital it would require a processor or regenerator and the required mask. Only the final amplifier chain above the up-converter could be used, it would require the necessary measurements, i.e. calibrate the power meter, test the AGC limits, the alignment of the complete translator and mask by a qualified person and be an exhibit on the license application or be put in the station file.

The licenses should be able to change the processor or regenerator when the operator feels it is necessary, with a letter to the FCC.

4. Digital Call Signs and ID's.

Translator station ID could be performed by the primary station or by FSK Morse Code as used by analog translators.

5. Microwave use of Broadcast Auxiliary Service.

Use of the Broadcast Auxiliary Service Channels will be necessary with the shortage of TV channels that will occur in the digital transition. On tests that were made on digital microwave transmitters, up to three digital TV channels can be placed on one standard microwave channel.

6. General Comments.

An initial filing window for new digital stations should be restricted to incumbent station on a one for one basis with a two year construction time. The new DTV station should have to maintain the same coverage area. This coverage area should be the same as the analog station coverage area. The new station would not be able to file for an increase in power until the digital transition is completed. One of the station licenses would have to be returned to the FCC. In other words, an operator could not use this situation to increase the number of stations he has.

We agree with the NPR on the proposal to have a limited window only for existing licensees and CP holders for a second channel for a second channel for DTV. The licensee should be able to use the second channel to transmit his analog TV and put the digital on the existing channel or use it for digital TV and leave the analog where it is during the transition. This may cut the cost of going to digital and keep the translator's channel identity.

After the limited window, only digital applications could be filed. There should be a freeze on analog translators, with an exception for very rural areas as defined in the NTA Rural Translator Request for Rule Making, i.e. only areas that receive less than four over the air broadcast TV stations.

§ 12 The translator should be a station that retransmits the original signal of a DTV Broadcast station for the reception of the general public. The translator should not alter the content or format of the primary Broadcast Station except for the 30 second per hour Local Public Service Announcements and Emergency Warnings.

§ 13 In many locations, DTV signals converted to analog would improve the reception to the Analog viewers. This should be allowed until the end of the transition. When the NTSC of the Broadcast Station is turned off, the translator should end it's analog transmission and switch to digital.

§ 14 There is a need for both regenerative and heterodyne translators and the decision as to which type to use should be left to the operator. The heterodyne translator for single hop systems work well and are not as expensive as the regenerator translator. Most existing analog translators are capable of retransmitting DTV signals.

§ 15 The translator operator should be allowed to insert up to 30 seconds per hour, at the present time, this would be too expensive. In the future, prices and technology will make this feasible.

§ 16 DTV translators should not alter the broadcast station's signal in any way other than frequency and amplitude.

§ 20 Any transmitter that originates programming for more than 30 seconds, should be considered an LPTV station.

§ 25 LPTV or translator operators should only be able to transmit video signals with no exceptions.

§ 28 Use of VHF 2-13 and UHF 14-59 for analog to digital conversions will help in finding channels for new DTV operators during the transition.

§ 29 Translators should be able to use all channels (52-69) unless interference is caused to Public Safety operations.

§ 33 Leave this rule as is.

§ 36 See section 31 protected contours.

§ 37 D/U ratios should use section 73.623(c), (c2), (c3).

§ 40 D/U ratios should apply to all classes of operation, digital and class A stations.

§ 41,42,43,44,45 & 46 Interference methodology should use the Longley-Rice Method for waivers of the rules, to accommodate as many DTV stations as is possible to be licensed. The use of a down tilt pattern antenna should be placed into the software in order to eliminate the need for a waiver.

§ 49 The Longley-Rice Method should be used for digital and analog translators along with LPTV Class A TV service.

§ 50 Interference agreements have been very successful and should be continued with digital translators and LPTV.

§ 52,53,54,55 & 56 Co-located adjacent channel operators should be allowed to operate on the basis of a written agreement. A waiver should be required for the co-located operator on an adjacent channel. If interference occurs, it would have to be corrected by the operator that causes the problem.

§ 57 All new applications for major change or new applications should be required to operate with a frequency offset. Many translators in the field will not meet this and could not be converted. This would cause an unneeded expense to small translator operators.

§ 58,59, & 60 The protection provided in section 74.703 and 74.709 should remain unchanged. Section 73.1030 should apply to all stations in the vicinity of these protected installations.

§ 61 ERP limits for digital and LPTV translators should be at 10 dB below analog translator stations.

§ 62,63,64,65,66 & 67 Out of channel emission limits should use the masks based on Sgrignoli's paper as outlined in section 65, with the exception of the grand fathered mask. The grand fathered mask uses the same 3-pole filter as used in the "simple" mask, only the out of band emissions are different and it is calculated differently:

$$0 \text{ to } 6 \text{ Mhz} = A(\text{dB}) = 40.6 + (\Delta f \times 3.33)$$

$$6 \text{ to } 7.5 \text{ Mhz} = A(\text{dB}) = 60.6 + ((\Delta f - 6) \times 6.37)$$

All frequencies greater than 7.5 Mhz down 70 dB or more. This would require 3 masks: grand fathered, simple, stringent. The D/U ratio used in the Sgrignoli's report could then be used.

§ 69 & 70 The use of multiple masks should be based on the adjacent channels and interference tables. The three pole filter would be the minimum mask required. If there is an adjacent channel, the operator would have to use a more stringent mask, this should apply to all stations. Most existing heterodyne translators will have out of band splatter that starts between 30 and 35 dB below the flat top of the signal, using the same three-pole filter. The out of band splatter is caused by the power out put amplifiers and IF amplifiers. The IF filters in the heterodyne are not as sharp as the SAW filters used in the regenerator or processors. The amplifiers also amplify some noise adjacent to the DTV signal. The filters do not change this level, so for existing translators the out band splatter mask should not be as tight. The translator should have a margin of not less than 30 dB from the top of the signal to where the shoulders fall out of the 6 Mhz band. Existing translators licensees and CP holders should be Grand fathered from analog to Digital TV. If an adjacent channel were present, the operator would need a digital processor with a SAW filter or a regenerator translator with the 5 or 6-pole filter to meet the more stringent mask.

§ 94 & 95 Mutually exclusive applications should be able to use the settlement agreements before having to go to auction.

§ 110 Additional channels awarded under the terms of section 336 (f) (4) should be protected from displacement by primary stations. This should be extended to cover translator digital channels as is with Class A channels.

§ 112 Priority should be awarded to any class of digital translator station that is displaced by a primary station.

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